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ABSTRACT

This guide sets forth minimum approval criteria for vocational forestry/forest products training programs in Oregon. The curriculum emphasizes the basic skills of forest management, harvesting, and manufacturing. The information in the guide is intended for use by district-level curriculum planners, teachers, regional coordinators, or state education department staff involved with new program development or revisions of existing programs. The guide outlines the instructional content of forestry/forest products programs in terms of program descriptions, areas for training, program goals, course/content goals, and sample performance objectives. Course titles and descriptions are also included. A section on organizational options is designed to illustrate a few of the many ways to deliver the minimum instructional content required for an approved vocational cluster program. Content is illustrated by course titles for the instructional levels to recognize that students from different grades may enroll in one or more levels of a program. (KC)

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CLUSTER BRIEF

FORESTRY/ FOREST PRODUCTS

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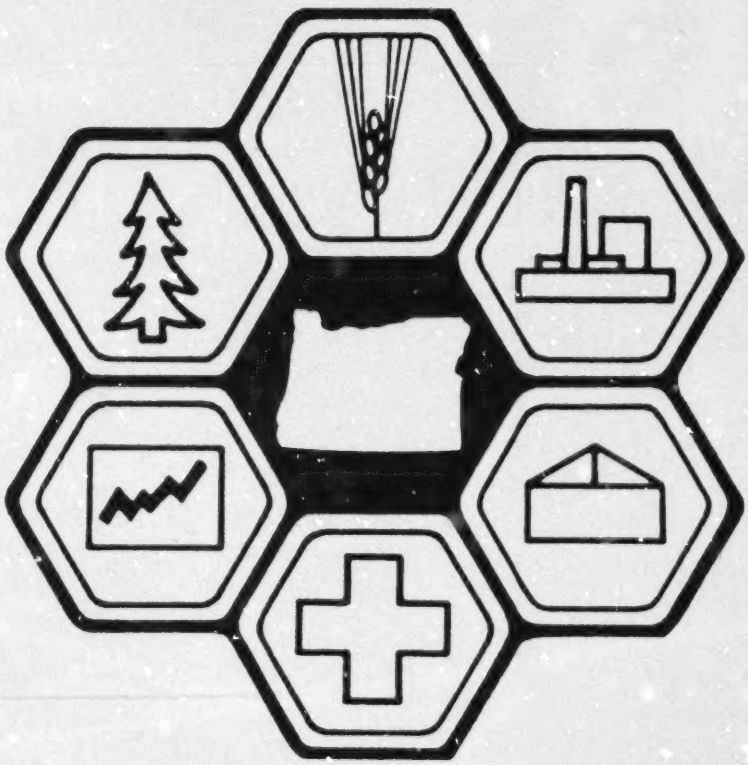

Vocational Education in Oregon

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FORESTRY/FOREST PRODUCTS VOCATIONAL CLUSTER PROGRAM MINIMUM APPROVAL CRITERIA

The following information is for use by district-level curriculum planners, teachers, regional coordinators or Department staff involved with new program development or revisions of existing programs. For more information about instructional content, see "A Suggested Forest Products Core Curriculum," 1974. The core curriculum guide sets forth competencies, skills, performance indicators and learning activities.

The minimum approval criteria for a Forestry/Forest Products Cluster program are set forth in this document. The instructional content is outlined in terms of program descriptions, areas for training, program goals, course/content goals and sample performance objectives. Course titles and descriptions are also included.

The section on organizational options is designed to illustrate a few of the many ways to deliver the minimum instructional content required for an approved vocational cluster program. Please note that time is illustrated in terms of credits. Content is illustrated by course titles for the instructional level(s) to recognize that students from different grades may enroll in one or more levels of a program.

Program Description

Forestry/forest products provides for entry-level skill development or articulation to postsecondary educational opportunities. The curriculum places emphasis on the basic skills of forest management, harvesting and manufacturing. In addition, school directed projects in a variety of work stations are essential to promote a quality program and student skill/competency development.

Areas for Training

Forester aide, conservation worker
Sawmill worker
Grader-tester
Veneer and plywood mill worker
Logger overall
chaser
choker setter
faller-bucker

Program Goals

Students will be able to:

- Know and apply the basic math, science and communication skills common to the forestry/forest products industry.
- Have knowledge, habits and attitudes which reflect intelligent concern for safety in use of tools and equipment common to the forestry/forest products industry.
- Know and use the tools, equipment and processes in the application of technical skills.
- Know the logging systems and use the common tools and equipment applicable in the harvesting of forest products.
- Know, use and maintain the tools and equipment common to the forestry/forest products industry.
- Know the fire prevention and suppression rules, laws and regulations and use of forest fire tools and equipment common to the firefighters.
- Know the various forest products industries and occupations including products, raw materials and their basic processing flow.
- Aware of the entrepreneurship opportunities and know what skills are needed for success.
- Apply fundamental leadership skills.

Course/Content Goals

DEVELOPMENT OF INDUSTRY

Students will be able to:

Summarize the development of national forests.

Describe the development of the logging industry in the U.S.

Summarize the importance of forest products industry in Oregon.

FOREST TERMINOLOGY

Students will be able to:

Spell and define forest terms.

Apply forest terms as they relate to tasks and applications.

FOREST TOOL IDENTIFICATION

Students will be able to:

Spell, identify and describe the use of forest tools used in the industry.

SAFETY/FIRST AID

Students will be able to:

Complete the multimedia first aid course and obtain a first aid card.

Apply safe working habits and prevent accidents to himself and fellow students.

FIRE PREVENTION AND SUPERVISION

Students will be able to:

Describe fire behavior.

Use hand and power tools in fire line construction.

Apply proper safety in fire fighting.

Care and maintain fire tools.

Apply knowledge and skills in use of basic water pumping equipment.

Verbally use fire control terminology and describe fire prevention techniques.

TREE IDENTIFICATION

Students will be able to:

Identify the important commercial species of Oregon.

Verbally use proper tree terminology.

BASIC SURVEYING

Students will be able to:

Properly use a hand compass.

Apply basic skills and knowledge in pacing.

Properly use an abney and clinometer in degrees or percent.

Read and locate areas on a forest map.

Verbally use proper surveying terminology.

CRUISING AND SCALING

Students will be able to:

Measure diameters of standing trees and diameters of logs.

Measure heights of standing trees and lengths of logs.

Determine grades, defects of a stand of timber and logs.

Use appropriate tools and equipment in surveying and scaling.

Apply skills and knowledge in basic cruising and scaling techniques.

Determine volumes of timber/logs both gross and net.

HARVESTING

Students will be able to:

Explain the Oregon Forest Products Act pertaining to logging impacts.

Develop a simple logging plan.

Explain several logging systems, both tractor and cable.

Properly set a choker.

Describe basic loading and hauling methods.

Describe basic harvesting terminology.

TREE PLANTING

Students will be able to:

Properly plant a seedling tree.

Describe the basic terminology for tree planting.

Identify the tools used in tree planting.

Work safely in a tree planting crew or activity.

FOREST MANUFACTURER

Students will be able to:

Describe the processing of local wood products manufactured.

Explain what basic raw materials are used for processing and the types of end products.

Describe the safety aspects of processing plants.

CHAIN SAW OPERATION AND MAINTENANCE

Students will be able to:

Properly maintain a chain saw including bar and chain.

Name the various parts of a chain saw and their function.

Properly use a chain saw in both falling and bucking of small timber.

Apply safe practices in the operation of the chain saw in falling, bucking, carrying and traveling.

Describe the fire regulations in chain saw operation.

Explain the use of safety equipment and apparel.

HAND TOOLS

Students will be able to:

Properly use and maintain hand tools.

Properly use marlin spikes in cable splicing in an eye slice.

Apply safe practices in use of hand tools.

TREE/POLE CLIMBING

Students will be able to:

Apply proper skills and knowledge in tree/pole climbing.

Identify the proper tools/equipment used in tree/pole climbing.

Describe safety hazards and demonstrate safety in climbing.

Describe the maintenance of climbing gear and appropriate basic maintenance to correct.

Identify climbing tools and equipment.

Verbally use proper tree/pole climbing terminology.

ENTREPRENEURSHIP

Students will be able to:

Identify career opportunities for self-employed business ventures.

Describe legal considerations that affect business ventures.

BASIC SKILLS

Students will be able to:

Apply basic communication skills, written and verbal, that are common to job performance.

Use science applications related to forest land management.

Use math applications related to forestry/forest products settings and projects.

Sample Performance Objectives

Given samples of cone, needles and bark, students will identify by common name a minimum of 70 percent of the species.

Using a compass, students will be able to traverse a given plot by both bearing and azimuth starting from point A and ending at the properly designated end location.

Students will properly start and stop a power saw and demonstrate all appropriate safety techniques.

Students will be able to measure the diameter of a tree with a Biltmore Stick.

Course Titles and Descriptions

FORESTRY/FOREST PRODUCTS I - INTRODUCTORY: An overview to the Forestry/ Forest Products industry including some basic skill development to each of the "basic" curriculum levels but at a lower level and emphasis.

FORESTRY/FOREST PRODUCTS II - BASIC: Students will obtain the basic skills and knowledge for the minimum skill areas as follows: forest terminology, forest tools terminology and identification, safety/first aid, fire control, tree identification, basic surveying, basic cruising, logging, log scaling,

manufacturing of forest products, tree planting, use and maintenance of chain saws, use and maintenance of handtools, servicing heavy equipment, wire rope splicing and climbing. Field experiences and projects are essential.

FORESTRY/FOREST PRODUCTS III - ADVANCED: Students have completed the "basic" component of the curriculum. Advanced curriculum places emphasis on complex harvesting projects, cooperative work experience where applicable, leadership in foremanship, straw boss concepts, and enhancing student skill development in use of tools, equipment, and logging/management skills/knowledge.

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Minimum Forestry/Forest Products Vocational Cluster Approval Criteria

In addition to specific cluster criteria, state-approved vocational programs shall meet the criteria for approval of all secondary vocational education instruction as listed in the Handbook of Policies and Procedures for Vocational Education Instruction in Oregon Secondary Schools, 1985.

Criteria outline:

- 2 1/2 credits (130 hours per credit) offered:
  - 2 1/2 credits within a maximum of one and one-half years.
- Instructional time blocks of sufficient duration for skill development to meet industry standards.
- Program goals, course goals and instructional content which reflect those in the state cluster brief.
- Provision for occupational cooperative work experience.
- Vocationally certified teacher.
- An active, representative occupational advisory committee.
- Associated Oregon Forestry Clubs (AOFC) as an integral part of the instructional program.

* *

Organizational Options

There are many acceptable options for delivery of instructional content while assuring that a quality program is provided. Schools have the opportunity to schedule classroom and laboratory activities to accommodate students and to facilitate learning. Delivery options include after school, weekends, summer school or alternate days.

Option	A	B	C
Level I	Forest Products Intro 1/2 Credit		Forest Products Intro 1/2-1 Credit
Level II	Forest Products Basic 2 Credits	Forest Products Basic 2 Credits	Forest Products Basic 2 Credits
Level III		Forest Products Advanced 2 Credits	Forest Products Advanced 2 Credits

If you need technical assistance, call the Occupational Program Specialist at the Department of Education. The specialist's name and phone number appear on the first page of this document.

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